

Math 1
Exam 6 Review

Exam 6 will be on Monday, April 10. It will cover all of the standards from module 6:

- **6A: apply transformations** Students perform rigid motion transformations on shapes in the plane.
- **6B: identify transformations** Students identify and describe transformations performed on shapes in the plane.
- **6C: perpendicular lines** Students prove and use the criterion for slopes of perpendicular lines.
- **6D: congruence** Students understand and use properties of congruence.
- **6E: symmetry** Students understand and use properties of symmetry.
- **6F: triangles** Students understand and use criteria for congruent triangles and similar triangles.
- **6G: construction** Students construct geometric objects using compass and straightedge.

Recall that parallel lines have the same slope. Also recall that, if two lines that are neither horizontal nor vertical are perpendicular to each other, then their slopes are opposite reciprocals of each other.

Recall the following forms of equations of lines:

- If a line has slope m and passes through (h, k) , then its point-slope form is $y - k = m(x - h)$.
- If a line has slope m and passes through $(0, b)$, then its slope-intercept form is $y = mx + b$.

In order for a line to reflect one point onto another, it must be the perpendicular bisector of the line segment whose endpoints are the two given points.

You need to know the constructions provided on the subbie wiki:

- angle bisector
- copy the angle
- equilateral triangle
- perpendicular bisector
- square

You also need to be familiar with the following terms:

- A *polygon* is a closed figure that does not intersect itself and whose edges are line segments.
- A *quadrilateral* is a polygon with four sides.
- A *parallelogram* is a quadrilateral with each of its sets of opposite sides parallel to each other.
- A *rectangle* is a quadrilateral with all angles congruent. (Every rectangle is automatically a parallelogram.)
- A *rhombus* is a quadrilateral with all sides congruent. (Every rhombus is automatically a parallelogram.)
- A *square* is a quadrilateral that is both a rectangle and a rhombus.

Following is a list of criteria for triangle congruences (that are valid in Euclidean geometry):

- SSS
- SAS
- ASA
- AAS

Note that AAA is *not* on the list. (That criterion only guarantees similarity.) Note also that SSA is *not* on the list.